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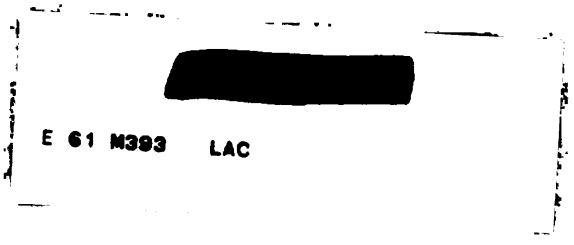

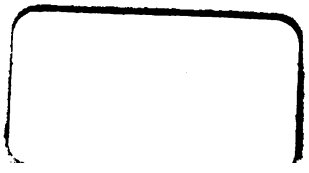

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MIGRATION AND THE FOOD QUEST: A STUDY IN THE PEOPLING OF AMERICA.

BY

OTIS TUFTON MASON.

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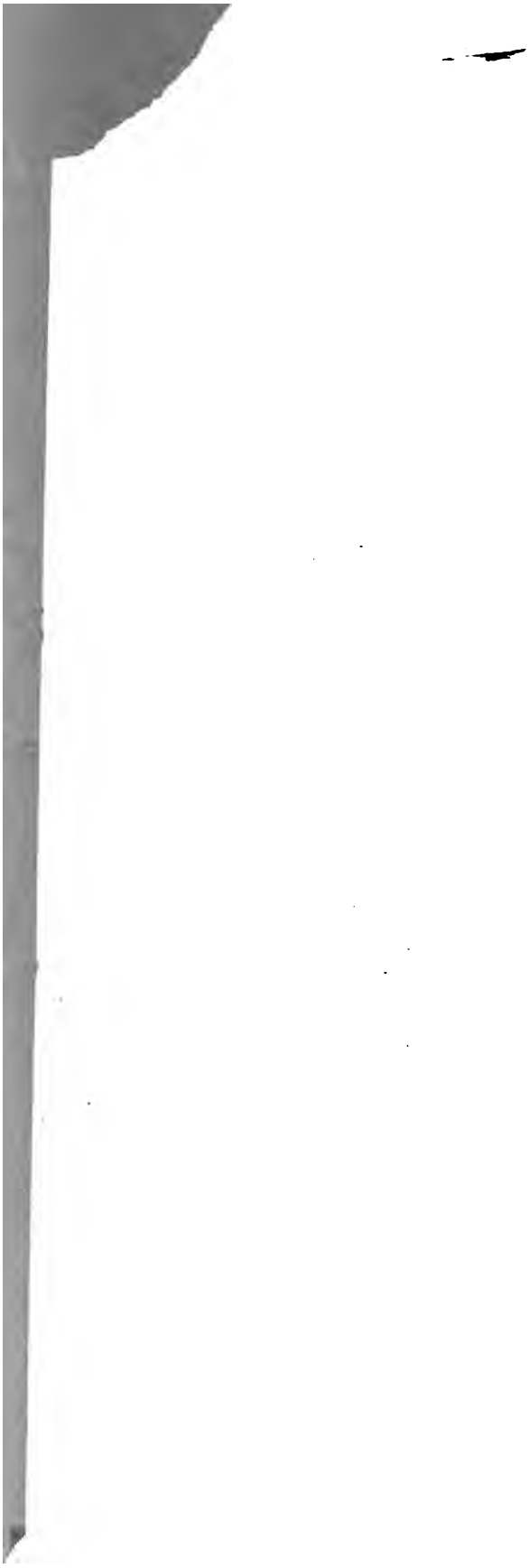


BINDERY

MAY 29 1975

MIGRATION AND THE FOOD QUEST: A STUDY IN THE PEOPLING OF AMERICA.[1]

By OTIS TUFTON MASON.

THE STRUGGLE FOR EXISTENCE.

In the struggle for existence our species has waged a double contest, the one against decay, disintegration within the human body or the society; the other against destructive forces from without.

The chief contest for the inner man has been to appease the insatiable cravings of hunger and thirst.

The chief contest for the outer man has been to resist the blistering rays of the sun, the biting frost, the pelting storm, savage beasts, and still more savage men. For this latter contest man created clothing for the body, the home for the family, the camp for the clan, the fortress and armor and weapons against the beasts and the enemy.

The elements of activity in this double contest were:[2]

1. The exploitation of the earth for materials and resources.
2. The transformations of materials and the subjugation of force.
3. Transportation and conveyance, the carrying industry.
4. Barter, commerce, and exchange, the pursuit of wealth.
5. The arts of consumption and enjoyment.

The activities just mentioned divide themselves into two sorts with relation to place—the stationary industries and the migratory activities. We shall attend now only to the latter.

MIGRATION AND ITS MOTIVES.

By migration is meant intentionally or unintentionally leaving a spot and not returning to it. This term is frequently confounded with those movements throughout the year which have been called "the circle of activities," the ground covered being the sphere of influence or total culture area. This sort of orbital or annual movement has had much to do with those permanent migrations of which we are now speaking.

[1] A paper read before the Anthropological Society of Washington, May, 1894.

[2] See the author's Origins of Invention, Lond., 1895, Scott.

The law of the circle of employments and of permanent migrat may be called the maxima and minima of effort—that is, men h always bestirred themselves the year round and moved about the wo on lines and to places where there seemed to be promise of the gr est comfort and security for the least effort on their part.

In this paper especial attention will be paid to this maxima minima in relation to the food quest, though it will be seen that foll ing this line conducts also to the best results in the other activi mentioned and to the supply of other needs.

Migration is caused not by one motive, but by all possible moti Collect all the influences and wants that have actuated individuals going about. These same, acting on a family, a set of men, a horde clan, a people, have caused migration. They have acted by compuls and by attraction, from within and from without, through nature a through man.

Taking these motives for change of habitation all in all, they may sharply divided into two classes, the attractive and the repulsive forc Some migrants are drawn, allured, enticed to move. They go becau they want to; nobody compels them. They have in themselves t energy, the ambition, the vigor, the desire to go, and these are t peoples that have dominated the earth.

Other migrants are crowded, driven, compelled to move. They afraid or too weak to stay where they are. Such people are coward or unfortunate, retrogressive, dying out. They shrink into the subur of the world.

Uniting these concepts of attraction and repulsion with the noti of subjective and objective causes of struggle, we have a quadruple of migratory forces working together or apart:

A. Subjective motives, vis ab infra.
   1. Desire, hope, appetite, ambition, energy.
   2. Weakness, fear, aversion, cowardice.

B. Objective motives, vis ab extra.
   3. Advantages, supplies, comforts, satisfactions, acting a fron or a tergo.
   4. Discomforts, compulsions, failure of resources, a fronte o tergo.

Accidents, superstition, calamities play their part with substanti causes in this composite set of motives.

According to the laws of mechanics, bodies move in the lines of lea resistance, with momentum proportioned to the vis a tergo. They ha no souls, no desires; they do not move, but are moved.

With animals and men the case is different. They move in a para lelogram of forces.

1. In the lines of least resistance in front.
2. In the lines of greatest pressure behind.
3. In the lines of greatest desire within.

4. In the lines of greatest pull, or attraction, or supply from without.

5. In the lines of greatest effort or volition subjectively viewed.

After all, it is the cheerful, hopeful migration, stimulated by desire and encouraged by propitious surroundings, allurements, and forces, that effects new cultures. Doubtless shipwrecked mariners, lost wanderers, and outcasts have now and then left a happy thought or suggestion upon receptive aboriginal minds; but these random surf beats are not what Tennyson calls—

> The great waves that echo round the world:

FOOD AREAS AND FOOD SUPPLY.

The greater part of the earth's surface was sterile and repellent as abiding place to primitive man or to the living forms upon which he depended, to wit:

The deep sea, out of sight of coastal plains and meadows.

The arid deserts, barren to man and plant and beast.

The mountain tops, then as now, inaccessible and unproductive.

The frigid zones, above the lines of food and furs.

The great plains and prairies, away from waterways.

The dense forests, jungles, tundras, and swamps.

But all of these were provocative of migration and long journeys.

Both man and his purveyors had to walk at first in those terrestrial paths which had been marked out by Nature and provisioned for his journeys. By following the trails of supply he got into the green pastures and encamped by the still waters that invigorated him. It so happened that the trade winds and gulf streams were conterminous with the marine feeding grounds; that the inland rivers, bays, and lakes on which he could journey with greatest facility were the catchment basins of surrounding fertile lands and the feeding ground of innumerable creatures yielding food to him in largest abundance.

The rich meadows and valleys were the débris of degradation. Their loam was once on the inaccessible tops of mountains and was only halting a little way on its journey to the great littoral feeding grounds. It was on this stream of dry land between mountain and shore that great herds of ruminants were developed, and to them early men were attracted for the easiest and most abundant means of support.

The greatest natural food supply for the least effort, with few exceptions, was in the water. This saying is true for all the five elements of activity of which I have spoken previously, to wit:

1. *Exploitation.*—The easiest food to take for human aliment is in the waters. It frequently comes to man's hand spontaneously.

2. *Transformations.*—The early manufactures, arts, industries, and divisions of labor over the products of the sea are more varied than those of hunting or gleaning.

3. *Transportation.*—By far the easiest primitive conveyance of man and transportation for the products of his activities were by water, and even now water transport is the cheapest.

4. *Barter.*—The oldest form of money, the world over, is shells from the water. For the most part primitive folk do not go far away from the water and the greatest cities are most accessible thereto.

5. *Consumption.*—The preparation and serving of sea food, in variety, in persistence throughout the year, in relation to cooking, drying, salting, and smoking, answer the demands of human desire as well as either of the others mentioned. And much of it is eaten raw.

FOOD AND MIGRATIONS IN AMERICA.

In the North American Review of October, 1869, and January, 1870, the Hon. Lewis H. Morgan wrote upon Indian migrations over the continent of America as influenced by existing physical conditions, principally food supply.[1] Because the region about the mouth of the Columbia River was possessed of the most abundant materials of this character, Mr. Morgan made that the starting point of migration over the continent and worked out a scheme for the movements of the principal stocks of aborigines.

I propose to take up the investigation of the distinguished ethnologist by the aid of such new light as the studies of twenty-five years have acquired. At present we may leave the question of the spread of stocks in America to the eminent gentlemen of the Bureau of Ethnology and to other scholars who are on the list of honorary members of our Anthropological Society, and inquire whether there be a practicable route from Indo-Malaysia to the Columbia River or to any other point near by on the North Pacific Coast.[2]

THE ROADS TO AMERICA.

There are two possible routes from Asia to America, one of which has been often discussed; the other is, so far as I am aware, to be now for the first time proposed.

The first mentioned is the Arctic or hyperborean route, across that culture region, or oikoumenē, which I have elsewhere denominated the interhemispheric area. It is the land of dogs and reindeer, of snow and snowshoes, of fur clothing, marine and Arctic mammal food, underground dwellings, birch trees, and the arts springing therefrom, skin and bark boats, harpoons, sleds, all the way uninterruptedly from East Greenland to the Land of the Midnight Sun, in Norway. This might be called the land or the snow-and-ice route.

The route which I now propose might have been nearly all the way by sea. It could have been a continuously used route for centuries. Until interrupted by later civilizations, it might have been traveled over for thousands of years. It lies absolutely along a great circle of

[1] Cf. Merriam's Dept. of Agriculture Bulletins, his address in the Nat. Geog. Mag., VI, and Allen's Geographical Distribution of Mammals, Bul. Am. Mus. Nat., IV, 199–244, with Powell's linguistic map, in regard to the coexistence of certain families of animals and plants with families of aborigines.

[2] Cf. J. W. Powell, linguistic map, VII, Ann. Rep. Bur., Ethnol.; and D. G. Brinton, The American Race, N. Y., 1891, Hodges.

the earth, the shortest and easiest highway upon the globe. I omit here the supposed route from Europe to Greenland, simply because it demands certain geological changes, all of which the writer is now trying to avoid; also those lines straight across the parallels from Polynesia, because the food supply was inadequate and the motives not apparent. Migrations of this sort are not denied or affirmed; they are simply laid aside for the present.

A HYPOTHETICAL CASE.

The Haida Indians of British Columbia annually voyage as many as 500 miles southward to Puget Sound to lay in a supply of dried clams and oysters for their own consumption and for trade.

Let us imagine a company of them or of their ancestors, no matter how many centuries ago, setting out from the Indian Ocean in an open boat no better than the one they now employ, and governed by the same commonplace motives. The peoples that our Haida would have to encounter now, or, better, those among whom the investigator would have mingled four hundred years ago, would have been—

1. Malay-Polynesians, who would have transported him to the confines of Japan.

2. The Japanese, and many hundreds of years ago the primitive Koreo-Japanese or their ancestors, or the primitive peoples of the islands and peninsula. Their plate armor and hexagonal weaving he would encounter as far as numbers 8 to 10 on the map.

3. Riding astride of reindeer, drawn by dogs or reindeer, in bark canoes and dugouts, and at times in canoes lashed together or walking on snowshoes, the traveler might have gotten as far as Norton Sound.

4. The Eskimo would have been his companions from Plover Bay in Asia to Cook Inlet, or to East Greenland, and their dress, often in Asiatic reindeer skin, as well as the identity of their industrial apparatus, would have prevented any shock in passing to the other side of the world.

5. As soon as Mount St. Elias was reached and the area of the great cedars was encountered, the traveler would again enter a dugout canoe, whose lines and means of locomotion would not be strange to him. He would see men clad in plate armor, wearing greaves on their legs as they did in Japan. All sorts of fishing apparatus and traps, and even the tales they told him, would appear familiar.

6. On the Columbia, the salmon-eating peoples would seem old time friends. The canoe, pointed at both ends under water, would remind him of the Amoor, and hereabout he would meet the northern division of the Uto-Aztecan stock, in whose company he might travel as far south as the borders of Chiriqui.[1]

7. With the Maya, the mixed tribes of the isthmus, the Chibcha, and the Aymara-Kechua tribes he would complete his journey, passing through the lands of potters and stonecutters.

[1] D. G. Brinton, The American Race, N. Y., 1891, p. 118.

In order to make the problem of their voyaging as simple as possible, let us not at present imagine any submergence of the ocean bed nor any geological nor physiographical changes, nor any accidents out of the daily human experience. We may be allowed to restore to the waters and to the land such creatures as we know to have been destroyed out of them in recent centuries by the exigencies of enormously multiplied populations and the demands of modern commerce, but no more. It will make our inquiry much simpler and more scientific if we have no experiences introduced or imagined that any man may not repeat at his leisure as in a laboratory.

The separate marine inclosures or areas in the progress of a migration from the Indian Ocean to the Columbia River and southward about a great circle of the earth are roughly—

1. The Indian Ocean, especially that part of its drainage toward the east.
2. The Indo-Malayan archipelago.
3. The South China Sea and parts adjacent.
4. The East China and the Yellow Sea.
5. The Japanese and the Tartary Sea.
6. The Okhotsk Sea and its environs.
7. The Bering Sea and its drainages.
8. The Alaskan sea and British Columbia islands and coast lands.
9. Vancouver island and the Columbia basin and the head waters of the Mississippi drainage on the west.
10. The great interior basin of the United States.
11. The Pueblo region.
12. Mexico.
13. Central America.
14. Colombia and Ecuador.
15. Peru, its coast, mountains, lake region, and the head waters of the Amazon.
16. The basin of the La Plata.

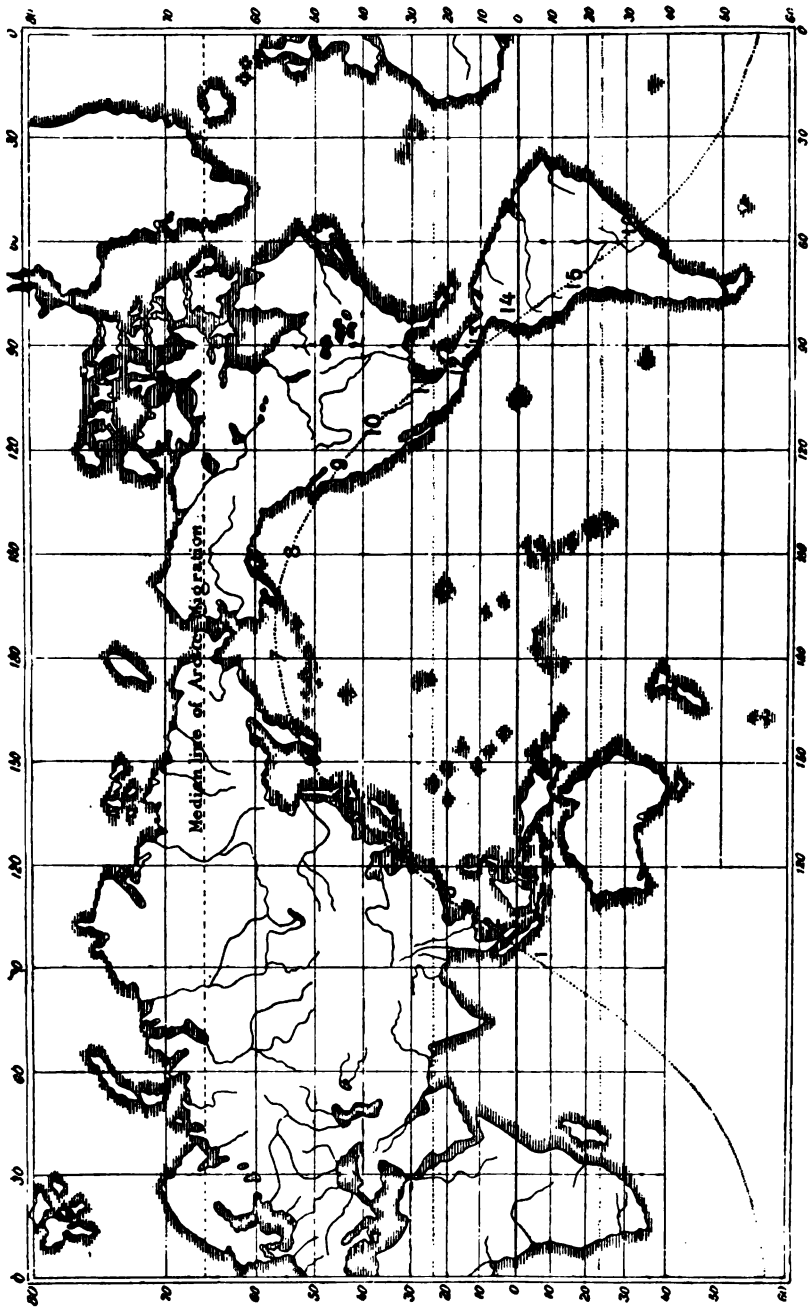
This general line is a great circle of the earth. On a Mercator map the straight lines are commonly taken for shortest distances, which they are not. Again, it so happens that the great circle here mentioned is the principal earthquake and volcanic line and the natural boundary of the Pacific Ocean.

NECESSARY CONDITIONS.

The conditions into which the candid student would be bound to inquire concerning such a route would be the following:

1. *Food supply.*—Could our imaginary Haida crew of men and women travel, say, from the Andaman and Nicobar islands to the Columbia River, a distance of 10,000 miles, and live on the natural resources all the way? Are the situations and movements of this food supply such as to toll or invite wandering people steadily and continuously onward?

2. *Conveyance.*—Were the aboriginal means of conveyance in vogue in the Malay-Polynesian area adequate to such a journey? Could the



MAP OF THE WORLD, SHOWING THE GREAT CIRCLE OF FOOD SUPPLY AND LINE OF ARCTIC MIGRATION.

modern Haida great canoe, the East Indian or the Malay-Polynesian craft stand such a trip? Are there landlocked seas all the way, such as East Indians, Malays, and Haidas paddle in at home, at the present moment? Had either people, before contact with whites, the appliances and the skill for such an excursion?

3. *Currents and highways.*—In which direction do the ocean currents move along the route indicated—toward America or from America?

4. *Winds and temperature.*—What winds blow along the Asiatic coast, about Bering Sea, and the archipelagos of the northwest American coast? What is the effect on the atmosphere of the winds which blow from these currents and from the Tropics in respect of climate in the countries along the route? Would these winds gradually move peoples toward or away from America? If a boat without a crew were set adrift in the South China Sea, to what point would it drift? What series of isotherms are included in this area?

5. *Suggestions and barriers.*—Are there any insurmountable barriers to our Haida Indians or Malays—that is, what would be the most difficult places for them to pass by reason of distance from land to land, exposure to open sea or adverse winds, failure of provisions, or greater allurements in other directions?

6. *Blood.*—Admitting that the aborigines of America are from the Eastern Continent, what peoples of the Old World are most like those of the New, anatomically and anthropometrically, by which is meant in skeleton, in muscular development, height, weight, physiognomy, color of the hair, eyes, skin, etc.?

7. *Social structure.*—The aborigines of the Western Continent had a social structure built up on the gentile system, practicing endogamy as regards the tribe and exogamy as regards the clan. Now, should our Haida Indians find any peoples about the Indian Ocean or elsewhere along the route who had the very same or nearly the same social structure?

8. *Language.*—What testimony does language bear to the kinship of American aborigines with Eastern peoples? To what languages in the Eastern Continent are the American tongues nearest akin? Does the present condition of the language problem close the door of inquiry concerning migration from Asia to America?

9. *Arts.*—In the arts of practical life and the arts of pleasure, what similarities should our company of Haida Indians find? It is freely admitted and indisputable that similarities arise in these respects by stress of the earth and stress of a common brotherhood of man; but such similarities are more or less functional or general or coördinated. The more that things or customs agree in minute structure, the more specifically are they akin and have had the selfsame originators. In other words, the greater the similarity, the less the probability of diverse origins. Are there any arts so akin structurally as to make the theory of independent origin improbable?

10. *Remains and historic evidence.*—What relics of primitive occupation should our voyagers encounter that would remind them of home, and what testimony have we of such aboriginal peoples? Or, to put the question in another form, if one of our distinguished archæologists, Morse or Putnam or Holmes, or an historian, such as Brinton, made the journey with the Haidas, would he come across any shell heaps, abandoned dwelling sites or work places, or ancient documents entirely inexplicable by the present inhabitants, but quite plain to one skilled in the antiquities of our own continent?

11. *Religion and folklore.*—What is the testimony of comparative mythology concerning the inhabitants of the spirit world and their conduct as believed in throughout the several neritic areas mentioned? In the cult of these regions what similarities exist in sacred places—houses, images, and worships? What folk customs seem to be akin?

12. *Modern witnesses.*—Not only trained ethnologists, but naval officers, navigators, travelers, and missionaries are constantly testifying and declaring their convictions of the commerce and blood relationship between the two sides of the Pacific. Any one of these witnesses might be entirely inadequate; but what weight is to be given to the cumulative testimony?

In brief, the conditions demanded for aboriginal communication are the following:

1. Abundant supply of food and clothing all the way.
2. Easy means of transportation and conveyance.
3. Impelling oceanic currents and highways.
4. Favoring winds and temperature.
5. Encouragements rather than discouragements, invitations and not barriers.
6. Resemblances of ethnic kinships.
7. Similarities in social structures and functions depending on kinship.
8. Homologous types in language.
9. Similarities in arts otherwise inexplicable.
10. The favorable witness of archæology and history.
11. The same traditions, folklore, mythology, and cults.
12. The confirmatory testimony of ethnographers, travelers, observers, etc.

Let us examine them in order.

A DEFINITE PROPOSITION.

In order to test the foregoing questions the following concrete hypothesis is advanced for examination:

That during the centuries in which Europe was working out of her earliest stone age into her renaissance, certainly for three thousand years or more, America was being steadily and continuously peopled from Asia by way of its eastern shores and seas from the Indian Ocean. Sub-

sidiary movements in the way of offshoots from this migration, contributions to it, and barriers to its progress were effected up and down the rivers and in the seas of India, China, Mongolia, and Siberia. That such a movement was practicable, consider the following arguments:

I.—ABUNDANCE OF FOOD.

In each of the areas mentioned there are a great number of species of food plants and animals; the individuals of many species are of great size, and of all the species there is prodigal quantity.

In the Indian Ocean and South China seas the animals are tropical and the natives are expert in their capture.

In East China Sea and Japan Sea are inexhaustible supplies of shad, herring, mackerel, cod, and local species. Besides these, food plants, water fowl, and marine invertebrates still abound for every need of the people.

Before the Russians began their operations in northeastern Asia the peninsula of Kamchatka supported 60,000 inhabitants; but under their rule the using up of the food supply and the introduction of fatal diseases decimated that number. At the present time the sea of Okhotsk would yield salmon and other aquatic food in abundance for any aboriginal needs; and prior to one hundred and fifty years ago the Rhytina afforded the absolute maximum of aliment for the least effort. There was also no limit to subsistence in Bering Sea. Furthermore, no sooner do we approach the latitude where the rigors of the climate demand extra clothing and fuel for the body than we find marine mammals and land mammals superabounding. Whale, seal, walrus, and sea lion in the water, and elk and reindeer and bears on land, are even more serviceable than the fish, for they are house and furnace and clothing and food all in one. In no region of the world do food-fishes and land and sea mammals exist so abundantly and so accessibly.[1]

II.—THE NAVAL POSSIBILITIES.

To investigate the second topic, namely, the possibilities of such a voyage or journey with the appliances at hand, it will be necessary to inquire as to—

1. Its length and directness.
2. The quality of the ships and other modes of conveyance.
3. The ability of the mariners and native travelers.
4. The depth of water and the character of land routes.
5. Whether the environment is such as savages are accustomed to.

1. *Length and directness.*—All modern steamships travel on the great

[1] Cf. U. S. Nat. Museum bulletins of London Fisheries Commission; Reports, etc., U. S. Fish Commission; Report Japanese Commission, World's Columbian Exposition. The writer acknowledges his obligations to Dr. G. Brown Goode and Dr. Tarleton H. Bean for information on these points.

circles of the earth as the shortest distance between two points. The Canadian Pacific steamers skirt the Aleutian chain on the way to Victoria from Yokohama. A great circle of the earth between the Straits of Malacca and the Columbia's mouth passes through every one of the shallow food-stocked areas named, and, continuing onward, is in touch with the buffalo feeding grounds at the sources of the great rivers, with the pueblo region, Mexico and Central America, and the highlands of Peru and Ecuador. The Aztecs, Mayas, Chibchas, and Kechuas were the antipodes of the ancient inhabitants of the Malay Archipelago.

2. *Modes of conveyance.*—As for the ships, it will be admitted that the aborigines of this continent were possessed of every form of boat known in the Eastern Continent except the outrigger canoe—kaiak, umiak, pirogue, bark canoe, coracle, skin float, raft, and reed float. They were singularly poor in appliances for land travel south of the dog and snow line; indeed, they kept to the waters closely. By a system of portages they had connected the Arctic Ocean and the Columbia's mouth with the Atlantic and the Gulf of Mexico. On our great circle, in areas 14 and 15 on the map, the American camel assumes the rôle of burden bearer.

Upon the Asiatic side the aborigines have been greatly disturbed by Russians, Japanese, and Chinese; but in the Malay Peninsula are craft as varied and as effectual, and the lines of the vessels are strikingly like to those of our western coast; and the natives now journey from Bering Straits southward to Japan by dogs and on snowshoes.

3. *Mariners and native travelers.*—When Europeans visited the Indian Ocean and the Pacific these waters were covered with hardy navigators. I am even tempted to suggest that the turning aside of a stream of pre-Malays, who were the Phœnicians of the Orient, by the Mongoloid intrusion from inland may have led to the peopling of the archipelagoes of the Pacific after America was fairly settled and a northward migration was interrupted.

4. *Water and land routes.*—All the way from the Straits Settlements to Vancouver, as will be seen by the *Challenger* map and the British Admiralty charts, we have shallow water. There is a broad bench constituting the marine feeding ground, where the series of outlying islands and archipelagoes fence in the neritic areas. The conditions are perfect. And inland, where navigation is the least perilous, food becomes the more abundant.

5. *Nature of environment.*—Each one of these environments is within the capabilities of savages. The landmarks were their light-houses; the inlets were their harbors innumerable; the grass and the color of the water were their barometers; the mammals, fishes, and birds were their pilots. They were scarcely subjected to the terrors and dangers of the fathomless sea.[1]

[1] For the land journey from Japan to Bering Strait consult Reindeer, Dogs, and Snowshoes, by Richard J. Bush, N. Y., 1871.

III.—OCEAN CURRENTS AND FOOD SUPPLY.[1]

In following this line of enormous food supply our voyagers would be materially aided by the ocean currents. The equatorial stream of the Pacific flows westward between the Tropic of Cancer and the Micronesian archipelagoes. On reaching the South China Sea it is split, a part going southward and westward into the Indian Ocean and a part northward and eastward, like our Gulf Stream, skirting the outer rim of the seas that I have mentioned all the way to the Columbia River. Within these seas counter currents and eddies help to equalize the temperature of the adjacent lands. The effect of this Kuroshiwo, as the ocean current is called, is much greater upon the food supply than upon the people. Bringing millions of tons of tropical silt and low sea forms in its stream, this Nile of the Pacific deposited them over the bed of the landlocked areas, acting like a top-dressing upon soil and a feeder of the aquatic food fauna. The lowering of temperature northward naturally would give the migrants an increased advantage in life's struggles as the climate became more stimulating, fecundating, and strengthening.

IV.—PREVAILING WINDS AND FOOD.

As for the prevailing winds, the trades blow westward in the Tropics. On reaching the Pacific shore they would follow some such law as that of the waters, but during the months of May to October the simoom from the Indian Ocean pushes northeastward and drives the trades along Asia northeastward. As we proceed the ocean current is spread out, and the winds blowing from warmer latitudes exert their benign influences on the coast of southeastern Alaska, British Columbia, and the State of Washington. The temperature of the whole route is equalized.[2]

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[1] Cf. Die unfreiwillige Wanderungen im grossen Ozean. O. Sillig, Petermann's Mitteil., vol. 36, Nos. 7 and 8.

[2] 1. The annual isotherm —20° to —10° C. I shall call the Arctic area. It includes (1) Arctic America, sweeping below the circle at Hudson Bay; (2) Greenland above 75° north; (3) Arctic Asia, and pushing down to Jakutsk, in Siberia.

2. The annual isotherm —10° to 0° C., including Alaska south of the strait, northern Canada, southern Greenland, Lapland, northern Russia, the northern Altaian piedmont, Okhotsk Sea, Kamchatka. It is the interhemispheric ethnic area.

3. The annual isotherm, 0° to +10° C., including southeast Alaska, British Columbia, southern Canada to New York, southern tip of Greenland, middle or blonde Europe, Mongoloid Asia, northern Japan, southern Saghalien, southern Kamchatka.

4. 10° to 20° C., United States, temperature rising west to Rockies by long curve and then southward by precipitous curve; Mediterranean or Melanchroic Europe, central Asia, China, and Japan.

5. 20° to 30° C., the tropical world, interior basin of the United States, northern Africa, Mesopotamia, Afghanistan, India, Farther India.

The summer temperature of the Yukon region is that of Saghalien, Korea, Japan, and China.

The isobar of Hongkong passes along Japanese Isles, around the shore of Okhotsk Sea, across Bering Strait, and crosses America just north of Vancouver.

V.—ENCOURAGEMENTS AND DISCOURAGEMENTS.

Morgan says that barbarians, ignorant of agriculture and depending upon fish and game for subsistence, spread over large areas with great rapidity. Under the operations of purely physical causes they would reach in their migrations the remotest boundaries of a continent in a much shorter time than a civilized people, with all the appliances of civilization.[1]

The same is true of the seas so long as they are unimpeded. Even after the first occupancy new peoples constantly wedge themselves in, as they have done in Columbia, Washington, Oregon, and California.

Two things would modify the track of migration which we are discussing, to wit:

1. The intrusion into the neritic areas along the Asiatic side of peoples that were sedentary and who assumed ownership of them, turning the highways into possessions and blocking further progress of migration. This intrusion ended at the North with Russia and the United States, 1728–1894. The white race in 1498 first set its greedy eyes upon the east, and Magellan died on the Philippines in 1521.

2. The intrusion of foreign elements into the stream of northeast movement. To continue the figure of the Haida voyagers, supposing they had replaced, as they went from sea to sea, any who died, whether men or women, with recruits from the shore. In a long voyage the complexion of the crew on arriving at Victoria would be greatly modified; also they may have left at the mouths of the Canton, Yangtze, Yellow, and Amoor rivers one or more pairs of their passengers. All of these things would have been perfectly natural to do.

But supposing that instead of a single canoe load of fifty Indians there were a stream of canoe loads flowing for thousands of years, when the eastern part of Asia was like the west coast of America fifty years ago; then colonies would be dropped in every favorable place and the peopling of eastern Asia would go on from the sea up the rivers and not from the land down the rivers. These peoplings may be described as waves, and we might speak of—

1. The American wave leaving the Japanese shell heaps.
2. Eskimo, Aleut, Jenessai, Ostyak wave.
3. Hyperborean Asiatic wave, peopling Siberia.
4. Aino wave, quite as likely to have followed our route as any other.
5. Mongoloid waves from inland seaward, ending in permanent industrial settlements and the cessation of migrating.

Imagine eastern Asia at the beginning of our era, or a thousand years before that, the abode of teeming populations of aborigines, living, moving, trading along these landlocked highways abundantly provided with food. They were fishers and hunters. Contemporaneously, in the

[1] Morgan in Beach's Indian Miscellany, Albany, p. 159.

Nile Valley, in Syria and Mesopotamia, in China and India, cereal, pastoral, and mechanical industries have been developing. Many of the peoples practicing them push to the east; they divide the coast. The aborigines disappear; they leave their shell heaps and move northward, then eastward and westward, following the winds and currents, and take the shortest and most inviting path onward.

There came to the eastern side of America three hundred years ago the nations of Europe. They crossed the continent and circumnavigated it. They severed our aboriginal Pacific Coast culture in many places:

1. The Russians in Bering Sea nearly severed the native commerce of the two hemispheres.

2. The Hudson Bay Company enlisted the movements of the Indians in their behalf and destroyed the aboriginal migrations and commerce.

3. The American fur traders projected their operations between the stocks of Oregon and California.

4. These were followed by explorers, settlers, and miners in our century.

5. The transcontinental railroads and the creation of independent states obliterated all vestiges of former aboriginal movements.

VI.—THE RACE PROBLEM.

The opinion of such scholars as Morgan and Brinton as to the uniqueness and homogeneity of an American breed or race is not gainsaid, but surely the last word has not been said upon this theme. It can not be denied, however, that this race is a mixed one fundamentally, and that there enter into it varied anthropometric characters. This is not only true of the living tribes, but of the bones from the graves. It has even been averred that Polynesians may have crossed from the Pacific archipelagoes, moved northward and mixed with long-headed northerners, forming a mesocephalic type.

Now, I would beg leave to suggest a different solution for these mysteries: Following the most abundant food supply along the seas in which primitive men were best equipped to obtain it, following currents of earth forces that would furnish incitement and even motive power, the ancestors of Malays, Polynesians, and Indians could have come from the equator to America, traversing for nearly the entire distance a series of landlocked seas of shallow water, abounding in food supply of fish and birds and marine invertebrates, and part of the way with innumerable vertebrates, as we have seen.

As to cranial index, the Eskimo are among the longest-headed peoples of the world, ranking with Abyssinians, Caroline Islanders, Hottentots, and some Polynesians. Most Americans are mesocephalic, as are the Malay-Polynesians, but the northern Mongoloids are the shortest-headed people in the world. In nasal index Topinard places

the redskins next to the yellow races of Asia, and in his general scheme the redskins follow the Polynesians.[1]

VII.—THE PROBLEMS OF SOCIOLOGY.

All the tribes in America except the Eskimo were found living under a peculiar system of relationship. Each tribe was endogamous, but it was split into gentes that were exogamous. Connected with this was a system of classific relationship, descent in the female line, and other social and political regulations that were new to the explorers. Morgan found that each great ethnic group had its own marital and political system, and these he has classified in his monumental work. He says: "The system of the Seneca-Iroquois Indians of New York is identical, not only in radical characteristics, but also in the greater portion of its minute details, with that of the Tamil people of south India." It is not to be supposed that the Tamil and the Iroquois are for that reason brothers. But they are in possession of a common social expression that came to them both from a common source.

VIII.—AMERICAN AND ASIATIC LANGUAGES.

Linguistically speaking, the Bering Strait is not the dividing line of two continents, since the Eskimo extend also into Asia, having, according to some, gone over from America. Contiguous to the Eskimo in America are the Athapascan family on the west and the Algonquin family on the east. Contiguous to the Eskimo in Asia are the Chukchis, and these are joined to other unclassed peoples. Now, the Chukchi language and the Athapascan language and the other Asiatic and American languages are noted for their lexical and grammatical differences and not for relationships.

But there were one hundred and twenty separate families of languages in America. The peculiar family system of the American aborigines, restricting marriage in the tribe, was more conducive to the rapid multiplication of languages than any other that could be devised. In that dispersive, centrifugal period of human history which preceded the invention of a written language changes must have gone on rapidly. Furthermore, philologists have not had the material upon which to work in forming a solid theory of linguistic relationships, and the latest researches do not justify the assertion that the American languages stand alone in morphology.

While it is true that identity of language is a good proof of the kinship of peoples, in the present state of knowledge the lack of proof of identity is no disproof of relationship or acquaintance in times remote, or proof of nonrelationship by consanguinity or contact.

[1] For a résumé of modern schemes of mankind, see the author's "Accounts of Progress," in Smithsonian Annual Reports, 1885 to 1893. The writer does not now discuss the pristine home of the human species.

IX.—SIMILARITIES IN ARTS.

To attempt in a short address to elucidate the whole subject of similarities in arts along the two shores would consume too much time.[1] The speaker will sufficiently orient himself in the minds of his readers by saying that there was scarcely an original fundamental idea developed upon the Western Hempshire. Every one of the industrial and æsthetic arts here can be matched by one from Asia or Oceanica. The differences are varietal, regional, tribal, special, natural. Many American arts also tally with those of prehistoric Europe, but these also came from that common ancestral source that supplied both Europe and Asia and America.

There is nothing unnatural or improbable in the supposition that the original migrants to a country should lay aside an art on the way and pick it up again in succeeding generations. Tribal memories do not die because demands cease or resources temporarily fail. This does not controvert Tylor's proposition, that a people that has acquired an art never loses it. I am now speaking of a stream of migration starting out from the equator and passing northward out of one culture area of mineral, vegetal, and animal supply, and of aerial, marine, and terrestrial conditions, and moving northward into and through a series of different supplies and conditions as far as there is a motive, and then repeating the process southward on another continent. This would require centuries. In one region a peculiar exigency evokes the art of working in hard stone; in a series of regions beyond, the absence of material, or of the proper tools, or of a demand for the product, interrupts or converts this art into something else. By and by the descendants of this people come upon new quarries, demands, and appliances. The art or folklore breaks forth again in such striking similarity to the old as to raise the inquiry among ethnologists whether some unfortunate castaway may not have been thrust ashore here and taught all the people a foreign art. This is highly improbable. The naturalists have no difficulty of accounting for such occurrences in nature, and they call them atavism. Technical atavism, or the revival of an industry that has lived in tradition,[2] then may and does account for the recurrence of some ancient Asiatic arts in America and of the same art in America in regions wide apart.

X.—THE WITNESS OF ARCHÆOLOGY.

Archæology has begun to bear testimony upon these possible migrations. Morse discovered shell heaps in Japan, and his researches were followed up by Kanda upon the stone implements. The ancient

[1] The author is preparing for publication an illustrated paper on the arts of the two sides of the Pacific, in which the matter will be minutely discussed.

[2] This is excellently illustrated by Rae, in Jour. Anthrop. Inst., Lond., 1878, Vol. VII, pp. 130, 131, with reference to the Eskimo house.

Japanese stone implements are identical with the American in technique and strikingly similar in shape. Even the æsthetic forms are wrought in precisely the same manner. It is well known that several waves of aboriginal occupation preceded the present Mongol dynasty in China, and students are waiting with interest to know more about them and the paths by which they entered the celestial domain.

XI.—RELIGION AND FOLKLORE.

I think that all American myths point to northern origin. They are filled with stories of the sea; but there is little ground now, in the infancy of the science of folklore and mythology, upon which to build theories.

I mention in passing the Easter Island images, the New Zealand and other Polynesian wood carvings, and the general suggestion of the Northwest totem devices in the Japanese areas.[1]

Father Morice says that the western Dêné about Stuart Lake, in British Columbia, have a tradition that "days were formerly so very short that sewing the edge of a muskrat skin was all that one woman could do between sunrise and sunset."[2] Boas says that the Kwakiutl on the Pacific coast of British Columbia tell of a place where the sun does not shine, where there are no trees, and where people ride in boats made of skins. These people tell of a place where the trees are all hollow in the middle so that they carry water in the trunks. As a matter of fact, though it may not count for much, the same tribe make gashes in a plank and convert it into a box with invisible joints precisely as the Chinese work in bamboo.

On the other hand, no northern tribe has the slightest conception that they have relatives in the south.

Boas, who has studied the west coast myths more than anyone else, points to their Asiatic origin.

XII.—THE TESTIMONY OF ETHNOGRAPHERS AND OTHERS.

Finally, and I do not think that such cumulative evidence is to be despised, all intelligent travelers are struck with the similarities existing between our west coast Indians and existing eastern Asiatics. It is true that those who have noted these resemblances have resorted to untenable theories to account for them, but false theory and good empiric data are not incompatible. It is well known that our Eskimo have peopled a portion of northeastern Asia, following the dominating instinct for aliment and comfort. The proposition I wish to defend is that this close connection between the two continents has existed for thousands of years, during which the contact between western America and eastern Asia was more and more close and extended and

[1] Cf. J. G. Frazer, Totemism, Edinb., 1887, Black.

[2] Tr. Canad. Inst., Toronto, 1894, IV, page 12.

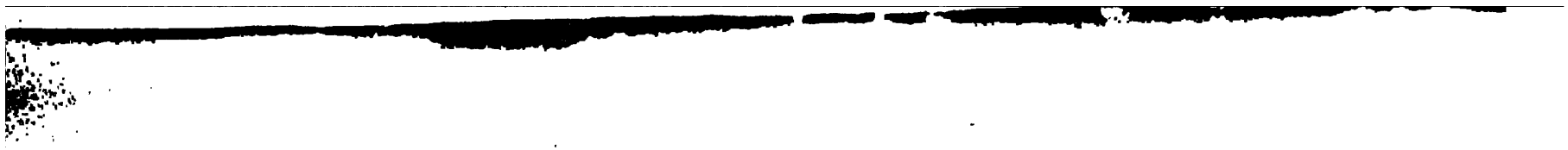
unbroken as we proceed backward in time. Or, to put the matter in another shape, there never was known to history a day when the two continents were not intimately associated. The evidences of the past seem to confirm the opinion that as we go backward in time the geographic conditions were more favorable and the contact more intimate.

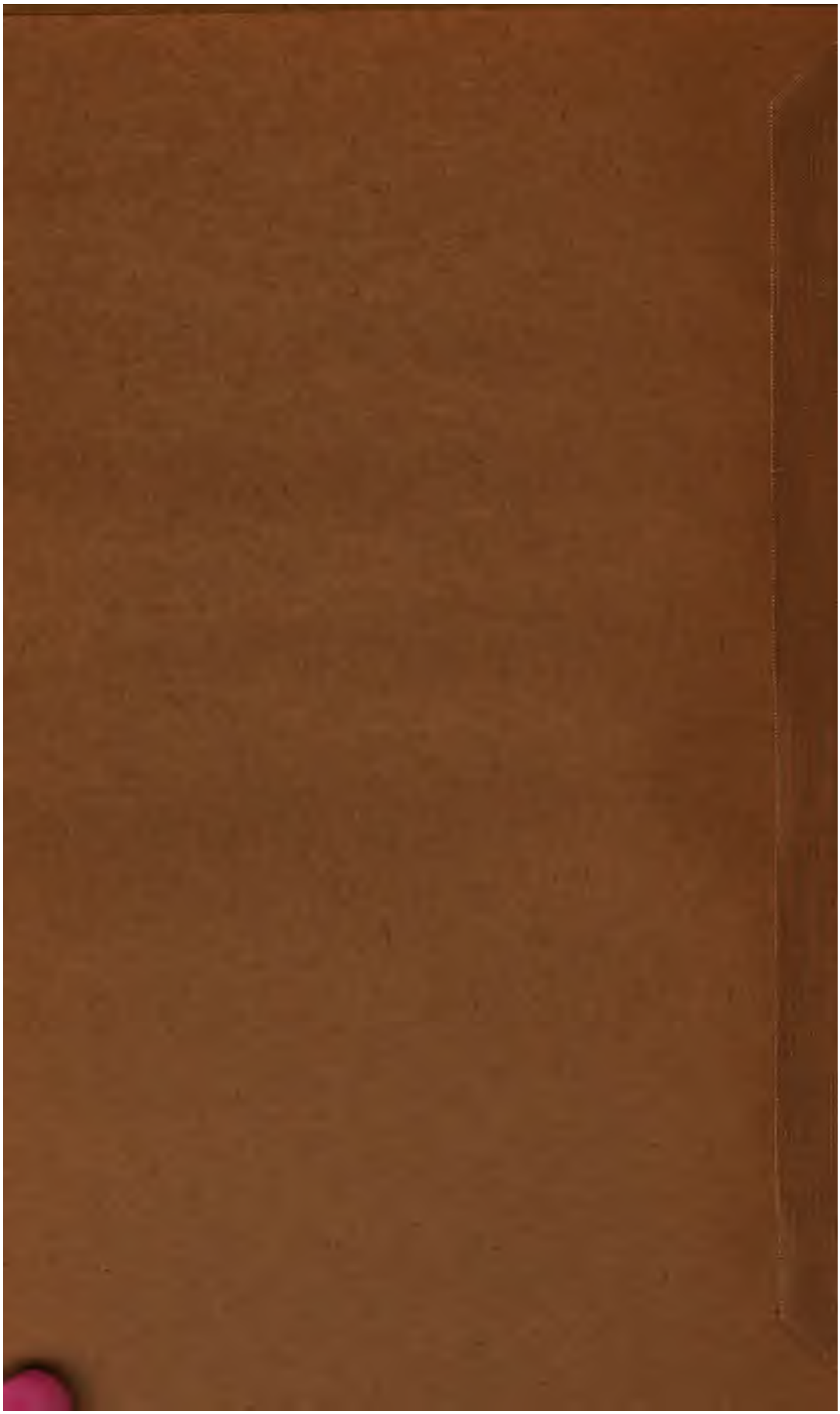
In conclusion, the author has not here undertaken to do more than to clear the way for a specific study of the civilizations of America and those of eastern Asia.

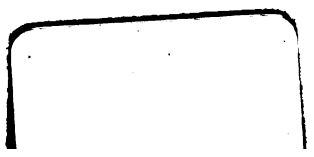
Such a study will require a great deal of patient inquiry on the part of students cooperating systematically and scrupulously only to know the truth. The investigations of Dr. Walter Hough show that the fire drill, consisting of a vertical revolving shaft and a horizontal hearth piece, exists uninterruptedly from Australia to Tierra del Fuego, and that besides this common apparatus, on the contrary, in the Malay area, have also been invented the fire plow, the fire saw, and the fire syringe. Wherever the better modes of fire making have superseded, as in Japan, the carpenter goes on boring holes with reciprocating motion between his palms.

Dr. Hough's studies in plate armor point to its existence in the entire stretch from Japan to the Columbia. If anyone will study carefully Von Schrenk's Reisen und Forschungen im Amur-Lande, third volume, and compare the figures and plates with similar illustrations from the Aleutian Islands or east Greenland, he will at every turn be arrested by seemingly useless similarities. The curious ivory ornaments on the sea otter hunter's wooden hat, made at great cost, are only explained by the patterns cut from bark and attached to their clothing. The same odd fashion is in full play in east Greenland. The harpoon of the east Greenlander and the central Eskimo, with line hole through the toggle head effected by two diagonal holes bored in the flat side, is almost precisely that of the Giliak. The canoe of bark pointed at both ends below the water line is identical on the Amur and the Kootenay, and so on.

The author protests against closing the door of investigation peremptorily, believing that it is the privilege of all to open any question anew. He desires to lay aside for the present any arguments relying upon continents that have disappeared, upon voyages across the profound sea without food or motive, upon the accidental stranding of junks, or upon the aimless wandering of lost tribes. These may all have entered into the problem of the aboriginal life of America. They are historical and geological questions and must be decided by the methods of these two sciences. It is here essayed to show that when the continent of America was peopled, it was done by men and women purposely engaged in what all sensible people are now doing, namely, trying to get all the enjoyment possible out of life for their efforts, and that the present condition of the earth and of peoples offers all the opportunity necessary for such peopling.







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